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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,452	02/19/2002	Jong-Weon Moon	8733.591.00	9869
30827	7590	04/21/2004	EXAMINER	
MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006			CHOWDHURY, TARIFUR RASHID	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/076,452

**Applicant(s)**

MOON ET AL.

**Examiner**

Tarifur R Chowdhury

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2, 3, 5, 6, 14, 15, 17 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. The phrase "may be" renders the claim(s) indefinite because a broad range or limitation followed by linking terms (e.g., preferably, maybe, for instance, especially) and a narrow range of limitation within the broad range or limitation is considered indefinite since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**7. Claims 1, 2, 4, 5, 7, 9, 11, 13, 14, 16, 17, 20, 21 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Moon et al., (Moon), USPAT 6,597,418.**

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

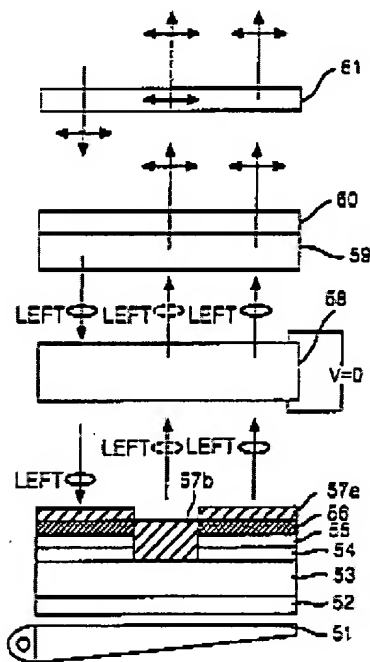
Moon discloses and shows in Fig. 7A, a reflective cholesteric liquid crystal (CLC) display device, comprising:

- a first substrate (53);
- an absorption layer (56) on the first substrate (53);
- a cholesteric liquid crystal (CLC) color filter (57a, 57b) on the absorption layer (56);
- a reflection layer (55) on the absorption layer (56), the reflection layer reflecting light in a range of wavelength (col. 10, lines 4-5);
- a first electrode (not shown) on the cholesteric liquid crystal (CLC) color filter;
- a second substrate (59) spaced apart from and over the first substrate (53);
- a second electrode (not shown) beneath the second substrate (59);

- a retardation layer (60) on the second substrate (59);
- a polarizer (61) on the retardation layer (60); and
- a liquid crystal layer (58) between the first electrode and the second electrode.

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FIG. 7A



Accordingly, claim 1 is anticipated.

As to claim 13, the method of manufacturing the reflective cholesteric liquid crystal (CLC) merely recites the step of forming each element and since each element must be formed to make the device, the method of manufacturing would be inherent to the device.

As to claims 2 and 14, it is clear from Fig. 7A of Moon that the reflecting layer (55) contact the liquid cholesteric liquid crystal color filter (57b) laterally.

As to claims 4 and 16, Fig. 7A of Moon further shows that the reflection layer (55) is interposed between portions of the cholesteric liquid crystal color filter.

As to claims 5 and 17, Moon also shows in Fig. 7A that the reflection layer (55) is formed on a whole area of the first substrate (53) in which the cholesteric liquid crystal (CLC) color filter (57a) is formed.

As to claims 7 and 20, Moon discloses (col. 9, line 66 – col. 10, line 5) that the cholesteric liquid crystal color filter has at least two layers that display a same color corresponding to each pixel region, the at least two layers each reflecting light in a different range of wavelengths.

As to claims 9, 11, 21 and 23, Moon also discloses (col. 10, lines 1-5) that the range of wavelengths is the spectrum of visible light and includes at least two colors.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**10. Claims 3, 6, 8, 10, 12, 15, 18, 19, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon as applied to claims 1, 2, 4, 5, 7, 9, 11, 13, 14, 16, 17, 20, 21 and 23 above.**

11. Moon differs from the claimed invention because he does not explicitly disclose that the reflection layer is formed of cholesteric liquid crystal polarizer. However, it is a well known practice in the art to combine layers in order to reduce thickness and thus to obtain a light weight device.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the display device of Moon by substituting the reflector with a reflector formed of a cholesteric polarizer so that the reflector can function as a reflector and a cholesteric polarizer as well as to reduce thickness of the device and thus obtain a light weight device.

Accordingly, claims 3, 6, 15 and 18 would have been obvious.

As to claims 8 and 20, using a partially transmissive reflector is common and known in the art and thus would have been obvious to obtain a transfective display.

As to claims 10, 12, 22 and 24, using the reflection layer so that it reflects light in a range of wavelengths of either ambient light or subset of the spectrum of visible light

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are obvious variations of reflecting light in a range of wavelengths in the spectrum of visible light and thus would have been obvious.

It should be noted that if applicant disagrees with the examiner's assertion a restriction requirement might be proper.

***Conclusion***


12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R Chowdhury whose telephone number is (571) 272-2287. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRC  
March 31, 2004

  
TARIFUR R. CHOWDHURY  
PRIMARY EXAMINER